

Case 3230

***Colobodus* Agassiz, 1844 (Osteichthyes, Perleidiformes): proposed designation of *C. bassanii* de Alessandri, 1910 as the type species, with designation of a neotype**

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Abstract. The purpose of this application, which relates to Chapter 15 of the Code, is to set aside all previous type fixations for the fossil fish genus *Colobodus* Agassiz, 1844 and to designate *Colobodus bassanii* de Alessandri, 1910 as the type species. The nominal species *Colobodus bassanii* is the best representative of the characteristics of the genus *Colobodus*. A neotype is designated for *Colobodus bassanii* under Article 75.3 of the Code.

Keywords. Nomenclature; taxonomy; Osteichthyes; Perleidiformes; fossil fish; *Colobodus*; *Colobodus bassanii*; Middle Triassic; Besano Formation; Italy; Switzerland.

1. Agassiz (1833–1844, p. 237; for the exact year of publication (1844) see Woodward & Sherborn, 1890, pp. xxv–xxix) described a new genus and new species of fossil fish in the name *Colobodus hogardi*. *C. hogardi* is therefore the type species of *Colobodus* by monotypy (p. 237). The description was made from a single crushing-teeth battery of an unidentified bone, but the bone was not figured. The tooth plate's outline is diamond-shaped; its teeth are striated and topped by a central wart. The specimen originates from the Upper Muschelkalk of Lunéville (France: Middle Triassic).

2. The name *C. hogardi* has been quoted, listed or mentioned, but rarely applied (e.g. Giebel, 1847, vol. 1, p. 181; 1853, vol. 2, p. 325 and Woodward, 1895, p. 69). Only Dames (1888, vol. 4, pp. 159–160) has applied the name, but without giving explicit reference to similar specimens in any collection. It appears that in 1967 the *C. hogardi* holotype was destroyed by a fire on the third floor of the Department of Palaeontology and Geology (EOST) at the Louis Pasteur University of Strasbourg (J.-C. Gall, Strasbourg, pers. comm., 2000).

3. In 1910, de Alessandri described well-preserved fish remains from the Besano Formation (Lombardy, Italian/Swiss border; Middle Triassic; Grenzbitumenzone) of the Monte San Giorgio/Besano basin, and thereby established the new species *Colobodus bassanii*. From de Alessandri's (1910, p. 76) description, the crushing teeth are morphologically identical with *C. hogardi* Agassiz. De Alessandri introduced the new species *Colobodus bassanii* based on several specimens, four of them figured, displaying characters of head, fins, dentition and scales. These details greatly widened our knowledge of the genus *Colobodus* (see de Alessandri, 1910, pp. 74–81; table 2, fig. 4; table 3, figs. 1–3).

4. In all representative works (e.g. Andersson, 1916; Beltan, 1972; Nybelin, 1977; Ørvig, 1978; Bürgin, 1996 and Cartanya, 1999), *C. bassanii* has subsequently been regarded as the most completely preserved and best known nominal species of the genus *Colobodus*. I am currently revising the family COLOBODONTIDAE Andersson, 1916.

5. The type material of *Colobodus bassanii* de Alessandri, 1910 was probably destroyed during the second World War (1943) in the Museo Civico di Storia Naturale in Milano (A. Tintori, Milano, pers. comm., 1998). However, large-scale excavations in the last century (see Kuhn-Schnyder, 1974) have yielded well-preserved and relatively complete specimens of *C. bassanii*. Most of these are now stored at The Natural History Museum, London (in the 'Carl Bender' collection) and at the Paläontologisches Institut und Museum der Universität Zürich.

6. As the original type material of *Colobodus bassanii* de Alessandri, 1910 has been destroyed, I herewith designate a neotype for this nominal species in accord with Article 75.3.4. According to Article 75.3.6, the neotype should, if possible, come from the same geological horizon as the original name-bearing type. The Middle Triassic Besano Formation site where de Alessandri found his holotype specimen of *C. bassanii* (see para. 3) has provided other specimens of this species from the same stratigraphical context. I designate the comparatively fully preserved specimen T 4843 from this locality (and now held in the collection of the Paläontologisches Institut und Museum der Universität Zürich) as the neotype for *Colobodus bassanii* de Alessandri, 1910.

7. The type material for the nominal species *Colobodus hogardi* Agassiz, 1844 has been destroyed, no additional well-preserved material has been found and the name has not been widely used. In addition, the characteristics of the genus *Colobodus* Agassiz, 1844, as currently understood, are better represented by the nominal species *Colobodus bassanii* de Alessandri, 1910 than by the nominal species *Colobodus hogardi* Agassiz, 1844. As a result I propose that, in the interests of maintaining the current understanding of the name *Colobodus* Agassiz, 1844, *Colobodus bassanii* de Alessandri, 1910 should be designated as its type species in place of *Colobodus hogardi* Agassiz, 1844.

8. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for the nominal genus *Colobodus* Agassiz, 1844, and to designate *Colobodus bassanii* de Alessandri, 1910 as the type species;
- (2) to place on the Official List of Generic Names in Zoology the name *Colobodus* Agassiz, 1844 (gender: masculine), type species by designation in (1) above and as defined by the neotype designated in para. 6 above *Colobodus bassanii* de Alessandri, 1910;
- (3) to place on the Official List of Specific Names in Zoology the name *bassanii* de Alessandri, 1910, as published in the binomen *Colobodus bassanii* (specific name of the type species of *Colobodus* Agassiz, 1844).

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References

- Agassiz, J.L.R. 1833–1844. *Recherches sur les poissons fossiles*, vol. 2, pt. 2, *L'histoire de l'Ordre des Ganoïdes*, xii, 338 pp. Neuchâtel & Soleure, Switzerland.
- Alessandri, G.D. de. 1910. Studi sui pesci triasici della Lombardia. *Memorie della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano*, 7(1): 1–147.
- Andersson, E. (= E. A:son Stensiö). 1916. Über einige Trias-Fische aus der Cava Trefontane, Tessin. *Bulletin of the Geological Institutions of the University of Uppsala*, 15: 13–33.
- Beltan, L. 1972. La faune ichthyologique du Muschelkalk de la Catalogne. *Memorias de la Real Academia de Ciencias y Artes de Barcelona*, 41(10): 281–325.
- Bürgin, T. 1996. Diversity in the feeding apparatus of perleidid fishes (Actinopterygii) from the Middle Triassic of Monte San Giorgio. Pp. 555–565 in Arratia, G. & Viohl, G. (Eds.), *Mesozoic fishes — systematics and paleoecology*. 575 pp. Verlag Dr. Friedrich Pfeil, München.
- Cartanyà, J. 1999. An overview of the Middle Triassic actinopterygians from Alcover, Mont-ral and El Pinetell (Catalonia, Spain). Pp. 535–551 in Arratia, G. & Schultze, H.-P. (Eds.), *Mesozoic fishes 2 — systematics and fossil record*. 604 pp. Verlag Dr. Friedrich Pfeil, München.
- Dames, W. 1888. Die Ganoiden des deutschen Muschelkalks. *Palaeontologische Abhandlungen*, 4(2): 133–180.
- Giebel, C.G. 1847. *Fauna der Vorwelt*, 467 pp. Brockhaus, Leipzig.
- Giebel, C.G. 1853. Über die Synonymie seines *Colobodus varius*. *Zeitschrift für die Gesamten Naturwissenschaften*, 2(11): 325–327.
- Kuhn-Schnyder, E. 1974. Die Triasfauna der Tessiner Kalkalpen. *Neujahrsblatt der Naturforschenden Gesellschaft in Zürich*, 176: 1–119.
- Nybelin, O. 1977. Studies on Triassic Fishes from East Greenland III. On *Helmolepis gracilis* Stensiö. *Meddelelser om Grønland*, 2001(2): 1–13.
- Orvig, T. 1978. Microstructure and growth of the dermal skeleton in fossil Actinopterygian fishes: *Nephrotus* and *Colobodus*, with remarks on the dentition in other forms. *Zoologica Scripta*, 7: 33–56.
- Woodward, A.S. 1895. *Catalogue of the fossil fishes in the British Museum (Natural History)*, vol. 3. 544 pp. London.
- Woodward, A.S. & Sherborn, C.D. 1890. *A catalogue of British fossil Vertebrata*. xxxv, 396 pp. Dulau, London.

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